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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/618,059	07/11/2003	Brian J. Schwartz	EH-10937 (03-358)	4332

34704 7590 10/18/2007

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ART UNIT	PAPER NUMBER
3723	

MAIL DATE	DELIVERY MODE
10/18/2007	PAPER

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BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

Application Number: 10/618,059
Filing Date: July 11, 2003
Appellant(s): SCHWARTZ ET AL.

William B. Slate
For Appellant

EXAMINER'S ANSWER

This is in response to the appeal brief filed August 16, 2007 appealing from the Office action mailed November 29, 2006.

(1) Real Party in Interest

A statement identifying by name the real party in interest is contained in the brief.

(2) Related Appeals and Interferences

The examiner is not aware of any related appeals, interferences, or judicial proceedings which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

(3) Status of Claims

The statement of the status of claims contained in the brief is correct.

(4) Status of Amendments After Final

The appellant's statement of the status of amendments after final rejection contained in the brief is correct.

(5) Summary of Claimed Subject Matter

The summary of claimed subject matter contained in the brief is correct.

(6) Grounds of Rejection to be Reviewed on Appeal

The appellant's statement of the grounds of rejection to be reviewed on appeal is correct.

(7) Claims Appendix

The copy of the appealed claims contained in the Appendix to the brief is correct.

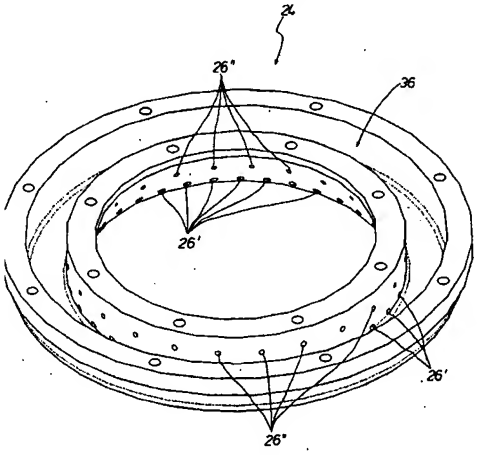
(8) Evidence Relied Upon

DE 202 16 396	LOUIS ET AL	6-2003
6,471,573	REITMEYER	10-2002
4,252,768	PERKINS ET AL	02-1981

(9) Grounds of Rejection

The following ground(s) of rejection are applicable to the appealed claims:

Claims 10, 11 and 13-15 stand rejected under 35 U.S.C. 102(e) as being anticipated by DE 202 16 396.



DE '396 discloses all of the limitations of claim 10, i.e., a machine tool having an elongated abrasive bit (14,16 and/or grinding or milling tool) a coolant nozzle having at least one coolant inlet (24); a plurality of coolant outlet 926) or (26', 26") oriented to discharge coolant obliquely (Fig. 11) arranged with circumferential spacing of no more than 72 degrees for each adjacent two outlets in either circumferential direction, wherein the nozzle further includes one or more passageways (36) defined by internal surface portions between the inlet and the outlet. Regarding claims 11, 13-15, DE '396 meets the limitations, i.e., coolant outlets at common radial position (26, Fig. 8); no more coolant outlet than the ones circumferentially positioned; 360 degrees and the coolant being angled (sloped neck).

Claims 1-11, 13-16 and 18-26 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Reitmeyer (6,471,573).

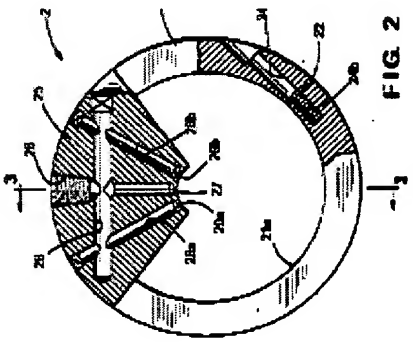


FIG. 2

Reitmeyer meets all of the limitations of claims 1, 10, 16 and 20, i.e., a coolant nozzle having at least one coolant inlet (26); a plurality of coolant outlet (27, 29a, 9b) oriented to discharge coolant obliquely (Fig. 3), wherein

the nozzle further includes one or more passageways (28) defined by internal surface portions between the inlet and the outlet, except for disclosing outlets to be arranged with circumferential spacing of no more than 72 degrees for each "adjacent" two outlets in either circumferential directions and for the method of forming the nozzle, i.e., sintered. Reitmeyer discloses in (03:59-62) that "any desired number of such outlet ports 27, 29a, and 29b may be located in any desired positions relative to the tool 12". It would have been obvious to one of ordinary skill in the art, at the time the invention was made, to modify the invention of Reitmeyer with more outlet ports (e.g., 5, spaced substantially around the adaptor) with spacing of no more than 72 degrees, in adapting the device for a particular application and since it has been held that changing shape, dependent on work-piece parameters, involves only routine skill in the art. *In re Stevens,* 101 US PQ 284(CCPA1954).

The method of forming the device, i.e., sintered body, is not germane to the issue of patentability of the device itself. However, sintering to make the device last longer and/or to protect it against corrosion, is known in the art and such modification would have been well within the knowledge of one of ordinary skill in the art.

Regarding claims 2-11, 13-15, 19 and 21-26, Reitmeyer as modified above meets the limitations, i.e., common radial position at unique angle; not more coolant outlet than the one circumferentially positioned; angled outlet (Fig. 3); wherein more than one outlet is provided, thus workpiece blocking one, would still be covered by others; wherein the bit is elongated superabrasive.

With regards to claim 19, the modified prior art discloses the claimed invention except for the use of the specific materials. It would have been obvious to one having ordinary skill in the art at the time the invention was made to use ceramic, since it has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use as a matter of obvious design choice. *In re Leshin,* 125 USPQ 416.

Claims 10-11, 13-15 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Reitmeyer (6,471,573) in view of DE '396.

Reitmeyer meets all of the limitations of the above claims, as indicated above, except for disclosing outlets to be arranged with circumferential spacing of no more than 72 degrees for each "adjacent" two outlets in either circumferential directions. DE '396 teaches a coolant nozzle with outlets surrounding the tool. It would have been obvious to one of ordinary skill in the art, at the time the invention was made, to modify the invention of Reitmeyer with more outlet ports as taught by DE '396, in adapting the device for a particular application.

Claims 1-9, 16, and 18-26 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Reitmeyer in view of Perkins et al.

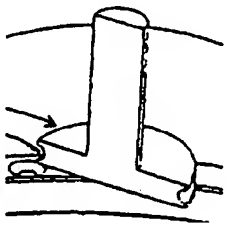
Reitmeyer modified with respect to shape, as indicated above in section 5, meets all of the limitations of the above claims, except for nozzle with sintered body, number of outlets, the size, and the types of the bit. All obvious modifications to one of ordinary skill in the art in view of Perkins et al. and depending on the intended use, workpiece/operational parameters, as indicated above in sections 5 and 6 above.

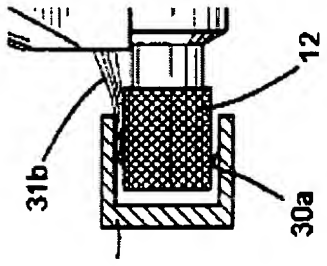
Claims 1-9, 16, and 18-26 stand rejected under 35 U.S.C. 103(a) as being unpatentable over DE '396 either alone or in view of Perkins et al.

DE '396 modified with respect to choice of material as indicated above, or in view of Perkins et al. further modified in light of combination with known tools, depending on the intended use, as indicated above meets all the limitations.

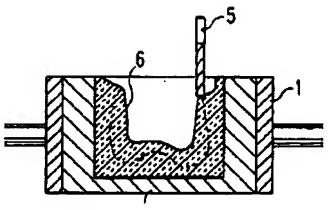
(10) Response to Argument

Appellant argues against the rejection of claim 10 over DE`396 that the reference fails to disclose an elongated abrasive bit. Appellant argues that DE`396 involves a polishing disk for polishing edges and not an elongated bit. This argument is in valid as it reads limitations from the specification into the claim. The claim only recites for an elongated bit. The long shaft of the polishing disk defines the tool as "elongated"; and the shaft of the polishing disk is inserted into a chuck for machining purposes and as such meets the definition of a "bit", thus the limitation of an "elongated bit" is met by the polishing disk of DE`396 as shown in Fig. 10 and presented here. It is also noted that DE`396 discloses in its ABSTRACT (as available to USPTO databanks, mailed to the Appellant June 30, 2006) that the machining device comprises a rotary tool such as a grinding or polishing disc or a milling tool. Note that a grinding tool is disclosed in Reitmeyer (appellant admits that Reitmeyer discloses a grinding bit on page 11 line 22 of the brief, Reitmeyer is discussed below), which clearly indicates an elongated bit as defined by the appellant. Further a milling tool as known in the art is generally defined by an





"elongated bit", see for example evidentiary example 6,739,959, Fig. 2 shown here, thus embodiments of milling tools for applications as exampled here, would anticipate the limitation even per appellant's version of claim interpretation.



Appellant chooses to pick the embodiment of Figs. 11 and 12 to argue that the groups of outlets 26' and 26" are at different radial positions and thus cannot meet the limitation of claims 10 and 11. This argument is invalid at least because Appellant agrees that this argument does not apply to the embodiment shown in Fig. 8. Therefore Appellant seems to argue that every embodiments shown must anticipate the claims, which is in error since if one embodiment anticipates the claims then the claims are anticipated by the reference. However, Examiner is of the opinion that either group of outlets 26' or 26" as shown in the embodiment of Figs. 11 and 12, would also meets the limitations as recited. The argument against claim 14 that DE`396 fails to disclose lengthwise coverage of claim 14 is invalid since it appears appellant is arguing for feature not recited, i.e., entire length of the elongated shaft, since the outlets are configured to cove "a length of an abrasive portion of the bit" as recited. Similarly the argument against claim 15 fails to read over the reference since the plurality of outlets provide redundant coverage around the entire circumference of the bit as recited.

Appellant argues against the obviousness rejections of claims 1, 10, 16 and 20 over Reitmeyer that the gap between the outlets as disclosed is greater than minimum gap recited in the claims. Appellant further argues that the configuration of the plenum would not feed all of the outlets if they were modified to meet the minimum gap

requirement. Still further appellant argues that even if the number of outlets were increased it may all be within the same sector thus not meeting the minimum gap requirement. These arguments are not persuasive since the base reference Reitmeyer discloses in (03:59-62) that "any desired number of such outlet ports 27, 29a, and 29b may be located in any desired positions relative to the tool 12". This is a clear suggestion to one of ordinary skill in the art to be motivated to modify the outlets in adapting the tool for a particular application. And placing the outlets forming smaller gap than 72 degrees all around the bit would have well been within the knowledge of one of ordinary skill in the art in adapting the tool for a particular application as it would require routine exterminations with predictable results. Then the argument that the plenum is not configured for such modification would be in error as it would also be modified to feed the newly arranged outlets (again well within the knowledge of one of ordinary skill in the art). This modification would not destroy the reference as it clearly suggests modifications with regards to number and arrangement of the outlets. The appellant argues that Reitmeyer fails to disclose a sintered body or a sintered ceramic body. With regards to sintered body, it is unclear how it structurally further limits the article itself, as it appears to be a method of forming, however, if it were to be considered to structurally further limit the article, it is not a sufficient reason for allowability, since as was indicated in the Office action sintering the body for longevity or to protect it against corrosion, (depending on the intended use) is known and well within the knowledge of one of ordinary skill in the art. Similarly with regards to sintered ceramic, choice of a preferred material, ceramic e.g., for high heat resistance is well within the knowledge of one of

ordinary skill in the art depending on the intended use. In response to applicant's argument that the examiner's conclusion of obviousness is based upon improper hindsight reasoning, it must be recognized that any judgment on obviousness is in a sense necessarily a reconstruction based upon hindsight reasoning. But so long as it takes into account only knowledge which was within the level of ordinary skill at the time the claimed invention was made, and does not include knowledge gleaned only from the applicant's disclosure, such a reconstruction is proper. See *In re McLaughlin*, 443 F.2d 1392, 170 USPQ 209 (CCPA 1971).

The argument that the body is a single unitary piece fails to indicate how it reads over the reference. The nozzle of prior art is a single unitary piece, it is a single piece (the single piece limitation would be met even by separate pieces attached or coupled together) and it is unitary as it forms one unit. It appears appellant is arguing that the body is not made out of different materials, if so this irrelevant since the claims do not recite such limitation. The arguments with regards to claims 3, 4, 7, 13, 15, 15 and 16 do not apply to the reference as modified as indicated above. Similarly the argument with regards to claim 18 is that the choice of material for its particular physical attributes, e.g., longevity, corrosion and/or high heat resistance, is not obvious to one of ordinary skill in the art.

The appellant argues that the term "superabrasive" in claim 22 is different than "grinding bit" as disclosed in Reitmeyer failing to indicate why claim 22 should be allowed over Reitmeyer. The claim is rejected over Reitmeyer under obviousness rejection. As clearly indicated in the first paragraph of page 3 of the instant application, the superabrasive

quill as recited in claim 21 is an exemplary bit for the invention. It is clear that appellant is not claiming that they have invented the "superabrasive quill" as further evident by the last paragraph of page 4. Bits having abrasives for machining purposes are well known in the art. Reitmeyer discloses that bit may be of any conventional forms (02:50-65) and choosing a bit having abrasives, again depending on the particular application, would be obvious, and that claim 22 is not allowable over Reitmeyer because of the particular type of bit used with the nozzle.

The arguments presented against the combination of Reitmeyer and DE`396 are not persuasive either, since DE`396 clearly discloses arrangement of outlets as recited, e.g., in Fig. 8; and the base reference clearly suggests for the embodiments wherein the outlets may be modified and that other shapes may be used to suit the application. Thus such modifying Reitmeyer in view of DE`396 as applied is not improper.

The arguments presented against the combination of Reitmeyer and Perkins et al. are not persuasive either, since Perkins et al. clearly discloses sintered body and attacking the reference individually, that Perkins only shows one outlet, is piecemeal analysis. The combination as indicated above, i.e., teaching from Perkins et al and knowledge available to one of ordinary skill in the art, would meet all of the limitations recited in the claims. The argument that Perkins et al teaches sandblasting nozzle does not exclude the teaching to be applied to other types of machining nozzles. In fact the nozzle as disclosed by Perkins et al is used for highly abrasive/corrosive and aggressive environment, which would suggest the use of sintered ceramic for its high resistance to abrasion/corrosion for other aggressive applications. The teaching from

Perkins et al to one of ordinary skill in the art would be that if a nozzle as disclosed by Reitmeyer utilized in highly corrosive/abrasive environment were subject to corrosion/abrasion itself, the problem may be cured using sintered ceramic body. A modification requiring routine experimentations with predictable results. The argument regarding the nozzle being a single piece is not valid since the nozzle, even if it only had a sintered ceramic core, would still meet the recitation because the nozzle may be of different materials but still defines a single unit. In response to applicant's argument that Perkins et al is nonanalogous art, it has been held that a prior art reference must either be in the field of applicant's endeavor or, if not, then be reasonably pertinent to the particular problem with which the applicant was concerned, in order to be relied upon as a basis for rejection of the claimed invention. See *In re Oetiker*, 977 F.2d 1443, 24 USPQ2d 1443 (Fed. Cir. 1992). In this case, light, durable and highly resistance to abrasion/corrosion are solution to problems faced for both types of machining nozzles, faced by artisans working in the filed. In response to applicant's argument based upon the age of the references, contentions that the reference patents are old are not impressive absent a showing that the art tried and failed to solve the same problem notwithstanding its presumed knowledge of the references. See *In re Wright*, 569 F.2d 1124, 193 USPQ 332 (CCPA 1977).

The arguments presented against the combination of DE`396 and Perkins et al are not persuasive either, as indicated above since the size and type of the bits would have been obvious to one of ordinary skill in eh art depending on the intended use as suggested by the references themselves. The structure regarding the plenum and tank,

the "acute" angle as recited in claim 26 and the sintered body, are met by the combination. Again it is noted that two pieces coupled to each other meets the recitation of "single piece".

(11) Related Proceeding(s) Appendix

No decision rendered by a court or the Board is identified by the examiner in the Related Appeals and Interferences section of this examiner's answer.

For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,

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